

1           **WHAT IS CLAIMED IS:**

2           1. A portable UV detector with simple operation comprising:  
3           a cylindrical main body with a hollow core running through both ends;  
4           a filtering lens mounted on one end of the main body and a screw plug on the  
5           other end of the main body,  
6           wherein an enclosure behind the screw plug is a battery chamber and a display  
7           panel window is formed on an external wall of the main body;

8           an output conversion circuit on a printed circuit board for converting the light  
9           intensity measured to the corresponding UV radiation level, whose input terminal is  
10          connected to a light detector located underneath the filtering lens, and the output  
11          terminal of the output conversion circuit is connected to a display module mounted in the  
12          display panel window of the main body; and  
13          multiple batteries housed in the enclosure of the main body behind the screw plug  
14          to provide the operating voltage for the output conversion circuit and light detector.

15         2. A portable UV detector with simple operation as claimed in claim 1, wherein  
16          a push-button switch is mounted on the printed circuit board of the detector to control  
17          activation/deactivation of the control circuit composed of a battery, an output conversion  
18          circuit, a light detector and a display module.

19         3. A portable UV detector with simple operation as claimed in claim 2, wherein  
20          the output conversion circuit comprises:

21          a light detection circuit composed of multiple resistors to form a voltage divider  
22          circuit, so that at each voltage tapping junction a reference voltage is produced, and the  
23          circuit is also connected to the light detector formed by a photo resistor;  
24          a comparator circuit formed from multiple comparators, wherein the reference

1      voltage terminal of each respective comparator is respectively connected to a voltage  
2      tapping junction; and the input terminal of each comparator is connected to a resistor  
3      with a different resistance value; and the output terminal of each comparator is  
4      respectively connected to the corresponding pin of the display module;

5            a power switch circuit connected in series to the push-button switch on the printed  
6      circuit board and the battery to control the operating voltage of the light detection circuit,  
7      comparator circuit and display module.

8            4. A portable UV detector with simple operation as claimed in claim 3, wherein  
9      the power switch circuit is formed by a push-button switch and the battery connected in  
10     series; and opposite ends of the push-button and the battery are connected in series to a  
11     resistor and a Zener diode in parallel; and the junction is further connected to one of the  
12     input pins of the display module to control the illumination of the fifth display segment.

13            5. A portable UV detector with simple operation as claimed in claim 1, wherein  
14     the display module has a graphical display.

15            6. A portable UV detector with simple operation as claimed in claim 3, wherein  
16     the display module has a graphical display.

17            7. A portable UV detector with simple operation as claimed in claim 4, wherein  
18     the display module has a graphical display.

19            8. A portable UV detector with simple operation as claimed in claim 5, wherein  
20     the display module has a UV level scale printed along one side.

21            9. A portable UV detector with simple operation as claimed in claim 6, wherein  
22     the display module has a UV level scale printed along one side.

23            10. A portable UV detector with simple operation as claimed in claim 7, wherein  
24     the display module has a UV level scale printed along one side.

1           11. A portable UV detector with simple operation as claimed in claim 1, wherein  
2       the display module has a numeric display.

3           12. A portable UV detector with simple operation as claimed in claim 3, whereby  
4       the display module has a numeric display.

5           13. A portable UV detector with simple operation as claimed in claim 4, wherein  
6       the display module has a numeric display.